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Claims

1. An embossable, coated polyethyleneterephthalate (PET) film comprising:

a uniaxially oriented PET base film; and

a coating applied to the PET base film,

wherein the coating and the PET base film have as a composite been transversely stretched, said coating resin impregnating a surface portion of the PET base film upon said transverse stretching, thereby rendering the surface portion of the film susceptible to embossing.

2. The film of Claim 1, wherein the PET base film is co-extruded and forms at least two layers.

3. The film of Claim 1, wherein the PET film has a thickness of about 4.5 μm to about 60 μm.

4. The film of Claim 1, wherein the PET base film contains particles.

5. The film of Claim 1, wherein particles are selected from the group consisting of silica, alumina, calcium carbonate and mixtures thereof.

6. The film of Claim 1, wherein particles are present in the amount of about 0.005 wt% to about 0.6 wt%, based on the weight of the PET film.

7. The film of Claim 1, wherein the PET base film is stretched in an amount of about 3.4 to about 5.4 times.

8. The film of Claim 1, wherein the coated PET film, as a composite, is stretched in an amount of about 3.3 to about 4.6 times in the transverse direction.

9. The film of Claim 1, wherein the coating is formed from a material selected from the group consisting of a non-crosslinked polystyrene-acrylic emulsion and non-crosslinked polyester dispersion.

10. The film of Claim 1, wherein the coating has a thickness of about 0.1 μm to about 0.4 μm.

11. The film of Claim 2, wherein the co-extruded layers comprise a polyester layer and a co-polyester layer.

12. The film of Claim 11, wherein the co-polyester layer is formed from isophthalic acid or a derivative of cyclohexane dimethanol.

13. The film of Claim 1, wherein the co-polyester layer has a thickness between about 0.1 μm and 3.0 μm.

14. The film of Claim 1, wherein the co-polyester layer has an upper surface contacting the coating and has a roughness Ra < about 40 nm.

15. A composite polyethyleneterephtlate film adapted as a directly embossable substrate for holographic use, the film produced by inline coating uniaxially oriented PET film, drying and then transverse stretching the coating and the film to produce the composite film.

16. A method of producing a coated, directly embossable polyethyleneterephthalate (PET) film comprising:

stretching a PET film to form a uniaxially oriented PET film;

drying the uniaxially oriented PET film;

coating at least one surface of the uniaxially oriented PET film with an aqueous solution of an organic material; and

rendering at least one surface of a resulting coated uniaxially oriented PET film susceptible to direct embossing by impregnation of the surface of the uniaxially oriented PET film with at least a portion of the coating by transverse stretching the coated uniaxially oriented PET film.

17. The method of Claim 16, wherein the PET base film is co-extruded and forms at least two layers.

18. The method of Claim 16, wherein the PET film has a thickness of about 4.5 μm to

about 60 μm.

19. The method of Claim 16, wherein the PET film contains particles.

20. The method of Claim 16, wherein particles are selected from the group consisting of silica, alumina, calcium carbonate and mixtures thereof.

21. The method of Claim 16, wherein particles are present in the amount of about 0.005 wt% to about 0.6 wt%, based on the weight of the PET film.

22. The method of Claim 16, wherein the PET film is stretched in an amount of about 3.4 to about 5.4 times.

23. The directly embossable, coated polyethyleneterephthalate film of Claim 16, wherein the coated PET film is stretched in an amount of about 3.3 to about 4.6 times in the transverse direction.

24. The method of Claim 16, wherein the coating is formed from a material selected from the group consisting of a non-crosslinked polystyrene-acrylic emulsion and non-crosslinked polyester dispersion.

25. The method of Claim 16, wherein the coating has a thickness of about 0.1 μm to about 0.4 μm.

26. The method of Claim 16, wherein the co-extruded layers comprise a polyester layer and a co-polyester layer.

27. The method of Claim 16, wherein the co-polyester layer is formed from isophthalic acid or a derivative of cyclohexane dimethanol.

28. The method of Claim 16, further comprising embossing selected surface portions of the PET film under pressure.

29. The method of Claim 16, wherein the co-polyester layer has a thickness between about 0.1 μm and 3.0 μm.

30. The method of Claim 29, wherein the co-polyester layer has an upper surface contacting the coating and has a roughness Ra $<$ about 40 nm.

31. A method of producing a directly embossable substrate having low heat sealability comprising:

inline coating a uniaxially oriented PET film with about 0.1 μm to about 0.4 μm in thickness of a non-crosslinked polystyrene-acrylic emulsion or non-crosslinked polyester dispersion;

drying the coating; and

transverse stretching the resulting coated film.